

## **Issue** *Naegleria fowleri* fatalities associated with Louisiana public water systems

**Background/Status** In 2011, 2 deaths were associated with exposure to *Naegleria fowleri*. *Naegleria fowleri* (commonly referred to as the "brain-eating amoeba"), is a heat loving, microscopic amoeba. It can cause a rare and devastating infection of the brain called primary amoebic meningoencephalitis (PAM). The amoeba is commonly found in warm freshwater (e.g. lakes, rivers, and hot springs) and soil. *Naegleria* usually infects people when contaminated water enters the body through the nose. Once the amoeba enters the nose, it travels to the brain where it causes PAM, which is usually fatal. Infection typically occurs when people go swimming or diving in warm freshwater places, like lakes and rivers. The 2011 fatalities, one in St Bernard Parish and one in DeSoto Parish, involved introduction of the *Naegleria fowleri* amoeba to the sinus cavity via Neti pot filled with drinking water from the St Bernard Parish and DeSoto Parish public water systems. An August 2013 fatality involved a 4 year old boy playing on a Slip 'N Slide in his grand parents' back yard in St Bernard Parish, after contaminated residential tap water entered the boys sinus cavity.

Following the August 2013 fatality in St Bernard Parish, the Centers for Disease Control (CDC) detected *Naegleria fowleri* in drinking water samples from both the St Bernard Parish and DeSoto Parish public water systems. EPA staff from Region 6 and the Office of Research and Development have been working with staff from CDC and the Louisiana Department of Health and Hospitals (LDHH) to effectively disinfect both water distribution systems to eradicate the *Naegleria fowleri* amoeba from these systems. EPA staff met in New Orleans with LDHH and CDC, September 23<sup>rd</sup> to discuss potential remedies for *Naegleria fowleri* contamination. EPA staff then accompanied CDC and LDHH in discussing such remedies with State Senator Morrell, and served on a panel in Chalmette, Louisiana to answer questions of St. Bernard Parish public water system consumers, the evening of September 23<sup>rd</sup>.

In light of the *Naegleria fowleri* amoeba detections in two different water systems in Louisiana, the Louisiana Department of Health and Hospitals is issuing an Emergency Rule (ER) to mitigate further risk from this and other pathogens. The intent of the ER is to ensure that finished water storage tanks and all points in the distribution system have a disinfectant residual concentration to control the *Naegleria fowleri* amoeba and to ensure that public water systems are monitoring sites which are representative of the water throughout the distribution system for total coliform and disinfectant residual concentration.

### **Message**

- When properly implemented, existing surface water treatment regulations, including disinfection requirements, should control exposure to *Naegleria fowleri*
- The LDHH Emergency Rule will further the public health protection objectives of current drinking water regulations by requiring higher levels of disinfection, monitored in a greater number of locations, until all public water systems in the State have exhibited appropriate disinfection to inactivate pathogens throughout the distribution system
- EPA Region 6 staff are assisting LDHH in identifying any additional Louisiana water systems that may be experiencing similar disinfection difficulties

- The Revised Total Coliform Rule, promulgated February 2013, will provide additional protection against this and other microbial pathogens

**Contact** Bill Honker, Water Quality Protection Division Director, 214-665-3187